Circadian clock has significant impact on allergic reaction

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(HealthDay)—The circadian clock seems to have a significant impact on allergic reaction, according to a review published online Feb. 17 in *Allergy*.

Atsuhito Nakao, M.D., Ph.D., from the University of Yamanashi in Japan, and colleagues reviewed the literature to examine the emerging role of the circadian clock as a regulator of allergic reactions.

The researchers note that symptoms and laboratory parameters of allergic disease exhibit prominent circadian variations, with symptoms worsening overnight or early in the morning in allergic rhinitis patients, for example. Consequently, allergic diseases may be suitable targets for chronotherapy; various medications have improved efficacy when administered in the evening, including the antihistamine mequitazine. Immunoglobulin E/mast cell-mediated allergic reactions exhibit circadian variations. Recent studies have shown that mast cells possess a functional molecular clock, and genes expressed exclusively or predominantly in mast cells exhibit circadian oscillations.

"Given the strong influence of circadian rhythms on allergic diseases, we believe that research on how the time of day impacts allergic reaction which we may call 'chronoallergology' will provide new insight into previously unknown aspects of the biology of allergies," the authors write. "Such knowledge should facilitate novel strategies for prevention and treatment of these diseases."

More information: Abstract
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